A catalogue of HMXBs in the Galaxy

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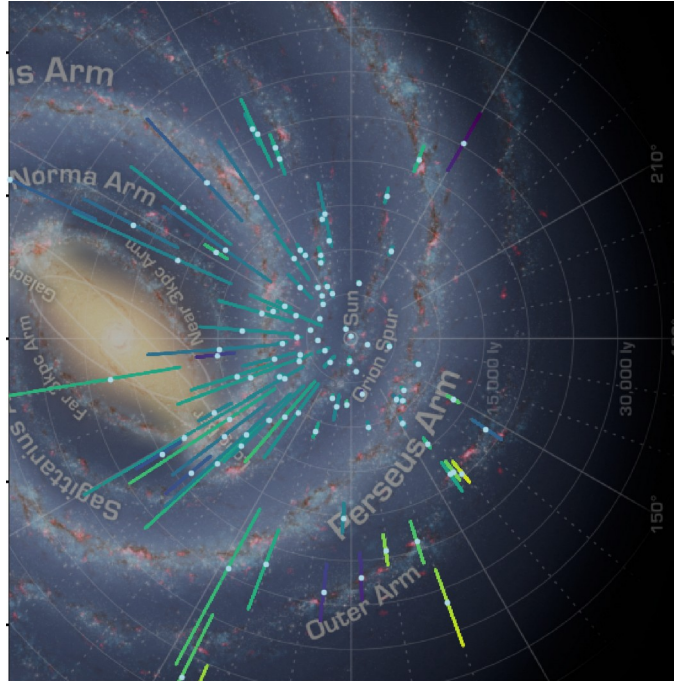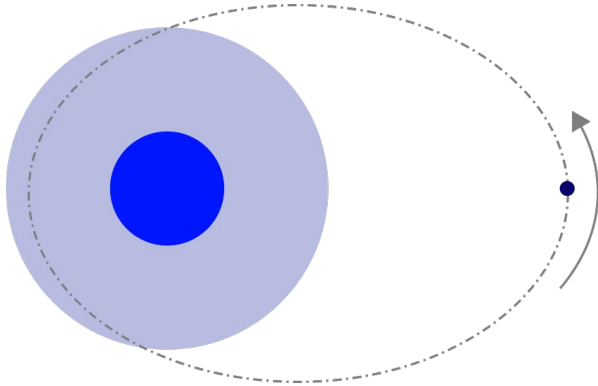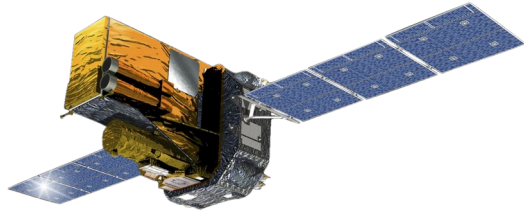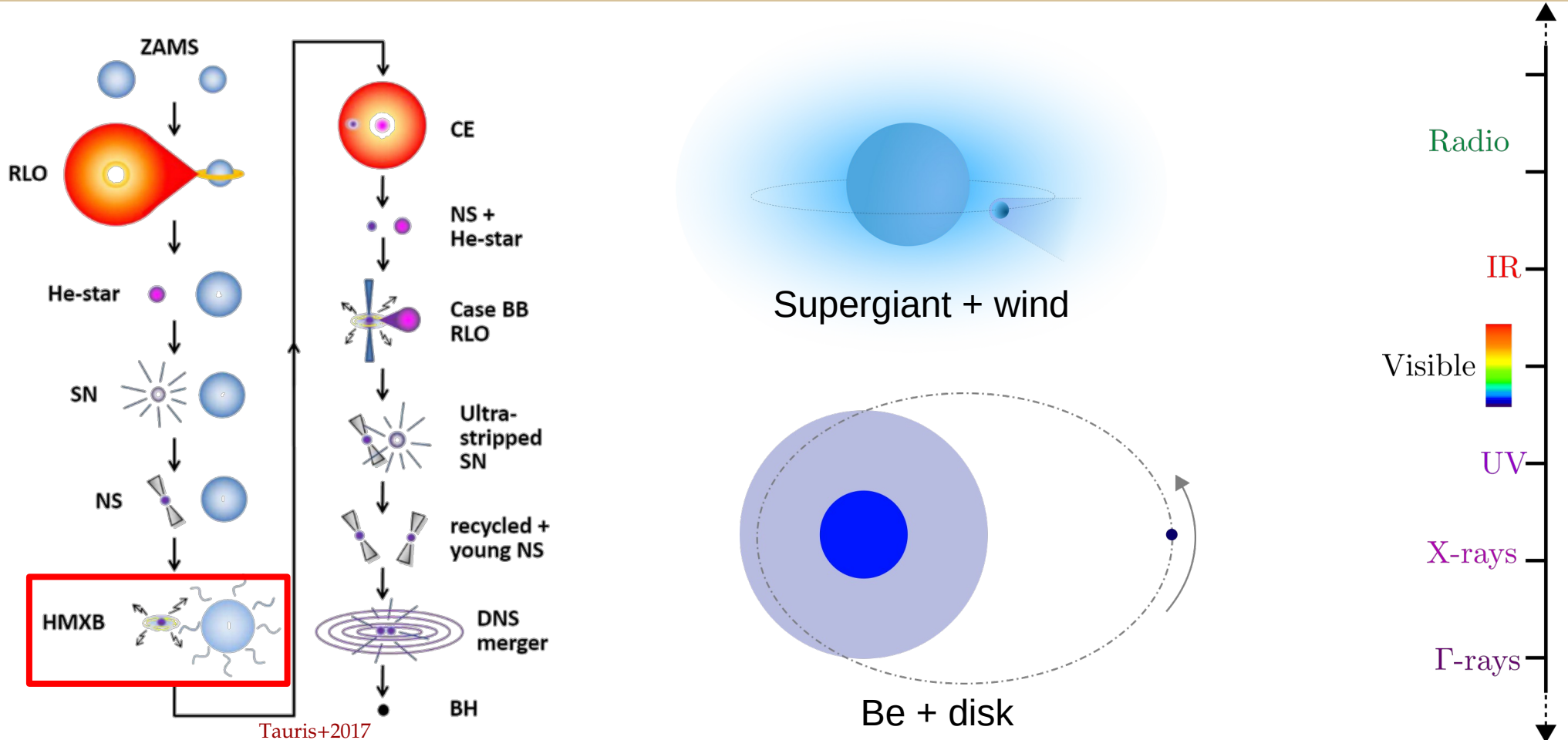
# High-mass X-ray binaries

ZAMS

RLO

He-star

SN

NS

HMXB

CE

NS + He-star

Case BB RLO

Ultra-stripped SN

recycled + young NS

DNS merger

BH

Tauris+2017

Supergiant + wind

Be + disk

Radio

IR

Visible

UV

X-rays

Γ-rays

X-ray binaries: observational challenges

1) discovery in hard X-rays

2) better localization in soft X-rays

3) precise counterpart in optical/nIR/radio

- spectral type of the companion star ?

- (super)orbital period ?

- spin period ?

- radial velocity follow-up ?

- variability ?

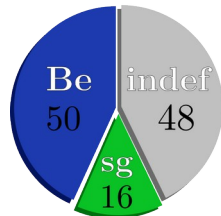→ **Many years & observations are necessary to fully constrain XRBs**
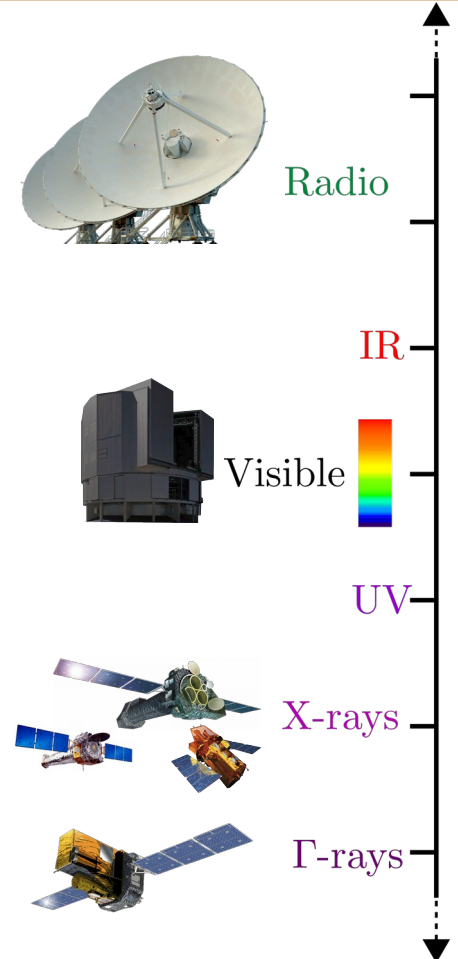
Radio

IR

Visible

UV

X-rays

Γ-rays

The new catalogue of HMXBs in the Galaxy

Last catalogue of HMXBs : Liu et al. 2006 [114]

→ many new observations since then

→ INTEGRAL was just beginning !

Liu et al. 2006 (N = 38)
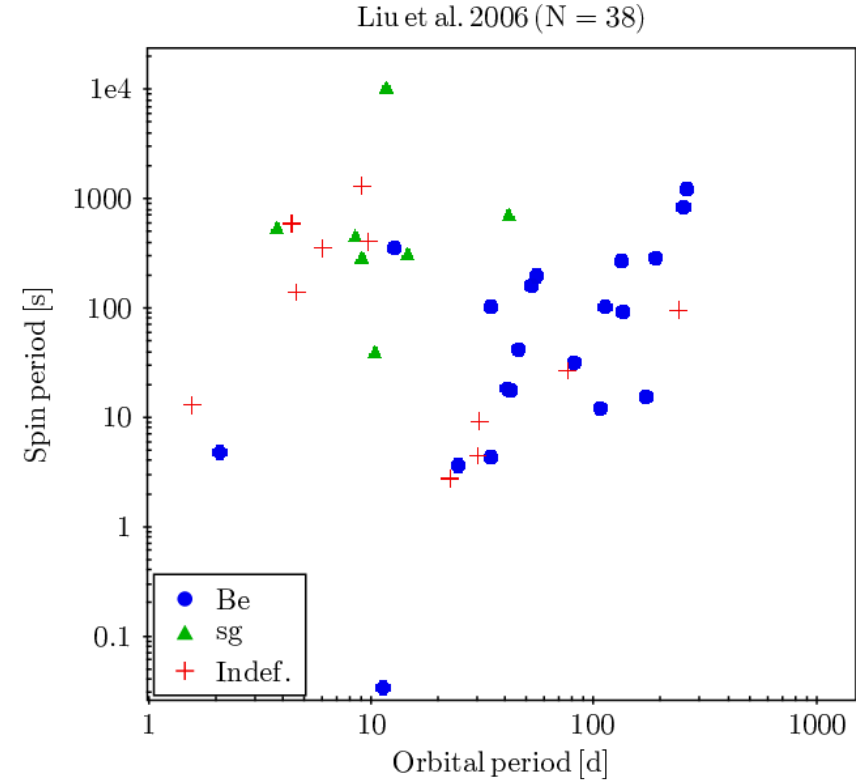
Liu et al. (2006)

N=114

The new catalogue of HMXBs in the Galaxy
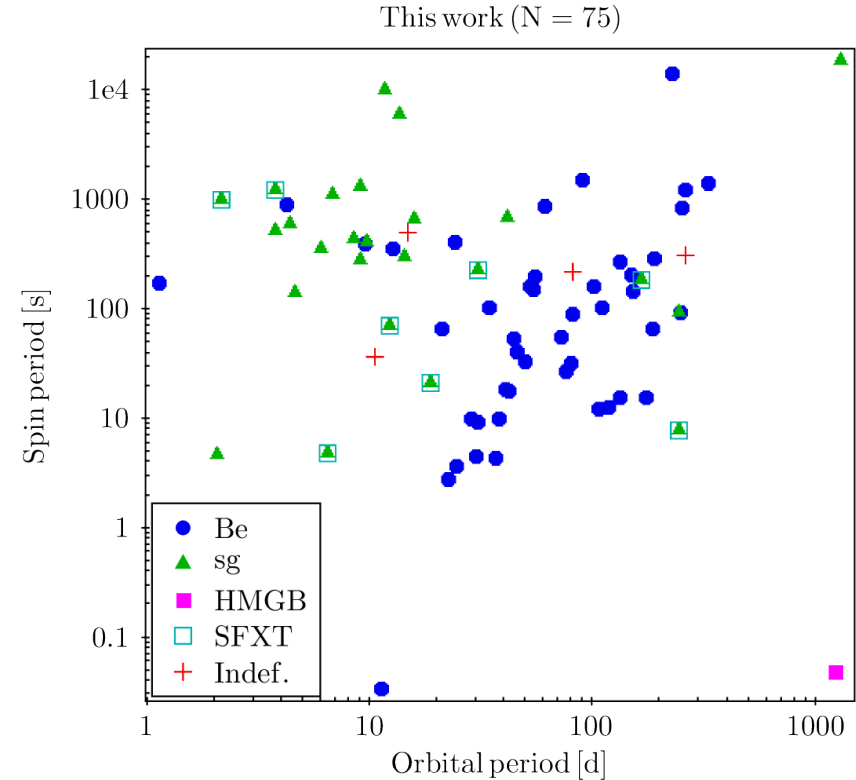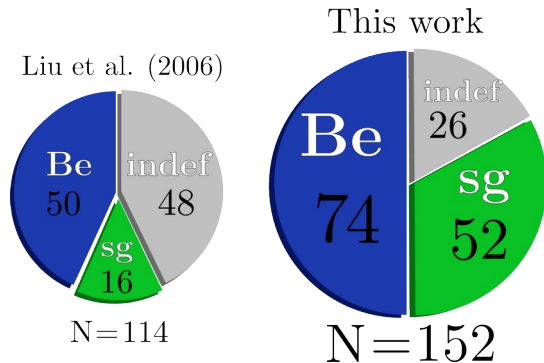
Last catalogue of HMXBs : Liu et al. 2006 [114]

→ many new observations since then

→ INTEGRAL was just beginning !

New catalogue of HMXBs : Fortin et al. 2023 [152]

→ automated search for multi-wavelength counterparts

→ manual search for spectral types, orbital parameters...

HMXB Webcat : an online tool (live demo !)

→ GitHub/HMXBwebcat
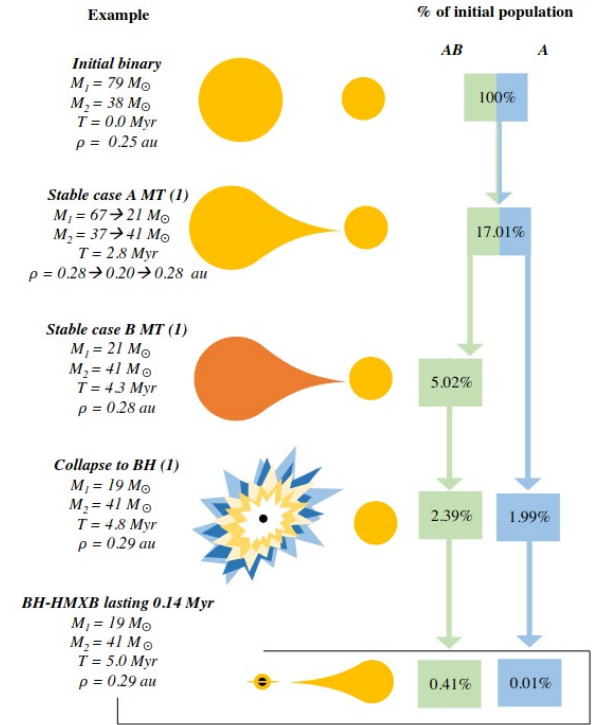
What's the use ?

Contribution to X-ray luminosity
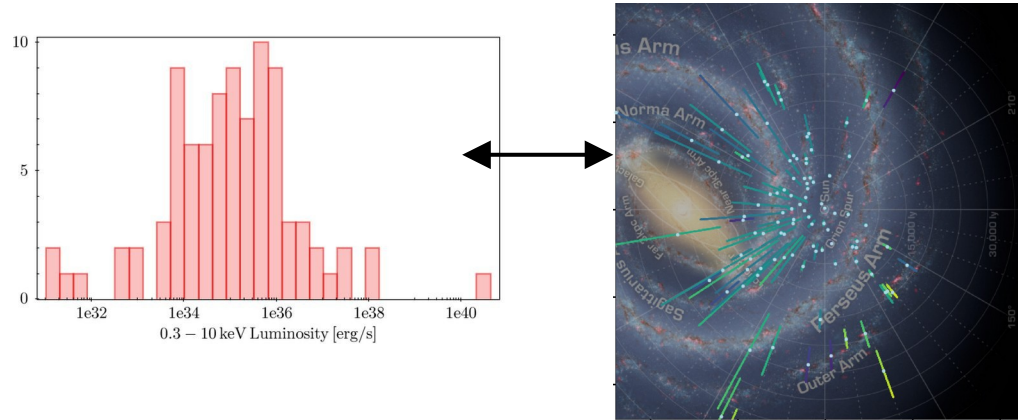
Evolution mechanisms
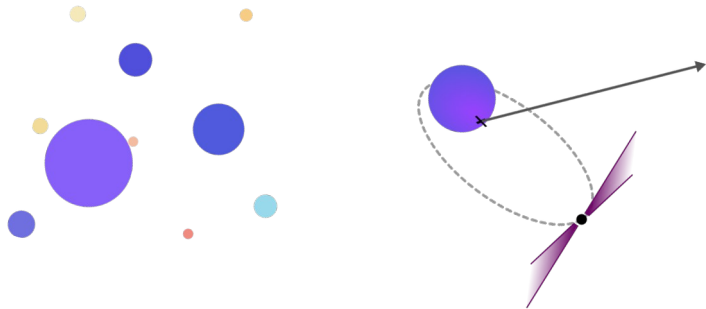
Population synthesis & compact binaries

Romero-Shaw+2023

Any contribution is welcome !

Visit the GitHub repo or reach me via email.

Modifications will be logged on the website

& new version will be available for download.

Thanks !

Attendance reward:

Mésange à longue queue / Long-tailed tit

Étang de Marcoussis, FR